Operating Instructions

STEREO DOUBLE CASSETTE TAPE DECK AMPLIFIER
DC-Z91

FM/AM DIGITAL SYNTHESIZER TUNER
F-Z91/F-Z91L

STEREO TURNTABLE
PL-Z81/PL-Z91

Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

IMPORTANT NOTICE

[For U.S. and Canadian models]

The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep it in a secure area. This is for your security.

[For Canadian modeel]

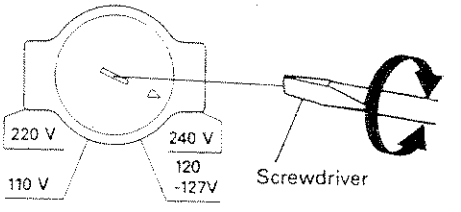
CAUTION: TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENTION: POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

LINE VOLTAGE SELECTOR SWITCH

Only multi-voltage models are provided with this switch. U.S., Canadian, European, U.K., and Australian models are not provided with this switch.
Mains voltages in Saudi Arabia are 127 V and 220 V only. Never use this model with 110 V setting in Saudi Arabia.
Before your model is shipped from the factory, the switch is set to the power requirements of the destination; nevertheless, you should check that it is set properly before plugging the power cord into the AC outlet.

1. Disconnect the power cord.
2. Use a medium-size screwdriver.
3. Insert the screwdriver into the groove on the voltage selector and adjust to the voltage value of your area so that the tip of the arrow point.



"This product is manufactured to comply with the radio interference requirements of EEC Directive 76/889/EEC and 82/499/EEC."

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

PIONEER®
The future of sound and vision.

IMPORTANT 1

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT 2

If the apparatus is fitted with AC mains power outlet(s), see REAR PANEL FACILITIES for convenient connection of additional Hi-Fi component(s). Make all connections to the AC outlet(s) and the signal terminals first. Connect the plug to the wall socket last, make sure that the power switch is off.

FOR USE IN THE UNITED KINGDOM

The wires in this mains lead are coloured in accordance with the following code:

Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured marking identifying the terminals in your plug proceed as follows:
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.
Equipment sold in the U.K. is not supplied with a power plug.

SAFETY INSTRUCTIONS

READ INSTRUCTIONS — All the safety and operating instructions should be read before the appliance is operated.

RETAIN INSTRUCTIONS — The operating instructions should be retained for future reference.

HEED WARNING — All warnings on the appliance and in the operating instructions should be adhered to.

FOLLOW INSTRUCTIONS — All operating and use instructions should be followed.

WATER AND MOISTURE — The appliance should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

LOCATION — The appliance should be installed in a stable location.

WALL OR CEILING MOUNTING — The appliance should not be mounted to a wall or ceiling.

VENTILATION — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings, or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

HEAT — The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

POWER SOURCES — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

POWER-CORD PROTECTION — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

POLARIZATION — If your purchased product is provided with a polarized power plug, please read the following instructions. This product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

CLEANING — The appliance should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzine, insecticides or other volatile liquids since they may corrode the cabinet.

POWER LINES — An outdoor antenna should be located away from power lines.

NONUSE PERIODS — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

OBJECT AND LIQUID ENTRY — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

DAMAGE REQUIRING SERVICE — The appliance should be serviced by a Pioneer authorized service center or qualified service personnel when:

- The power-supply cord or the plug has been damaged; or
- Objects have fallen, or liquid has been spilled into the appliance; or
- The appliance has been exposed to rain; or
- The appliance does not appear to operate normally or exhibits a marked change in performance; or
- The appliance has been dropped, or the enclosure damaged.

SERVICING — The user should not attempt to service the appliance beyond that described in the operating instructions. For all other servicing, contact the nearest Pioneer authorized service center.

OUTDOOR ANTENNA GROUNDING — If an outside antenna is connected to the antenna terminal, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges.
In the U.S.A. section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Fig. A.

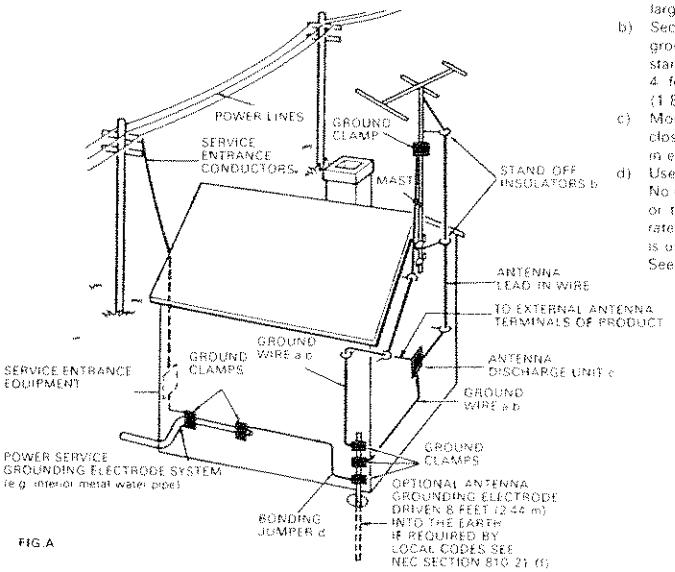

POWER LINES
SERVICE ENTRANCE CONDUCTORS
GROUND CLAMP
MAST
STAND-OFF INSULATORS b
ANTENNA LEAD-IN WIRE
TO EXTERNAL ANTENNA TERMINALS OF PRODUCT
GROUND WIRE a, b
GROUND CLAMPS
ANTENNA DISCHARGE UNIT c
SERVICE ENTRANCE EQUIPMENT
GROUND WIRE a, b
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (e.g. interior metal water pipe)
OPTIONAL ANTENNA GROUNDING ELECTRODE DRIVEN 8 FEET (2.44 m) INTO THE EARTH IF REQUIRED BY LOCAL CODES SEE NEC SECTION 810-21 (f)
BONDING JUMPER d

FIG.A

a) Use No. 10 AWG (5.3 mm^2) copper, No. 8 AWG (8.4 mm^2) aluminum, No. 17 AWG (1.0 mm^2) copperclad steel, bronze wire, or larger as ground wire.
b) Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4 feet (1.22 meters) to 6 feet (1.83 meters) apart.
c) Mount antenna discharge unit as closely as possible to where lead-in enters house.
d) Use jumper wire not smaller than No.6 AWG (13.3 mm^2) copper, or the equivalent, when a separate antenna-grounding electrode is used.
See NEC Section 810-21 (j).

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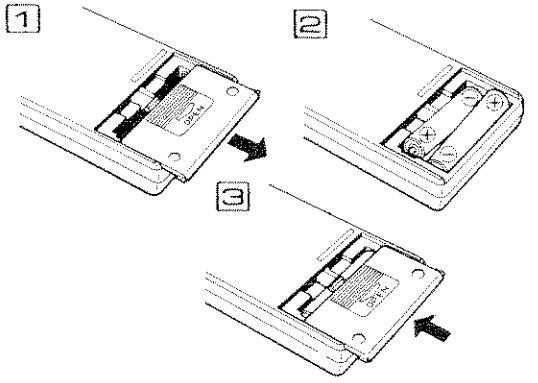
PUT BATTERIES INTO REMOTE CONTROL UNIT

1. Open the rear cover.
2. Install batteries making sure that the + – polarity is correct.
3. Close the cover.



Cautions for handling dry batteries.

Misusing dry batteries can result in electrolyte leakage or explosions. Bear in mind the following points for getting the most out of your batteries.

- When loading the batteries into the battery compartment, make sure the plus + and minus – polarities correspond to the markings on the compartment.
- Even though they may be the same shape, batteries come with different voltage ratings. Do not mix or use different types of batteries together. Use only the same kind of batteries.
- Do not mix up new batteries and used batteries but replace all the batteries at the same time.
- Do not heat up, disassemble or shortcircuit batteries or throw them into a fire.
- Some batteries are rechargeable while others are not. Observe the cautionary notes on the batteries and use them properly.

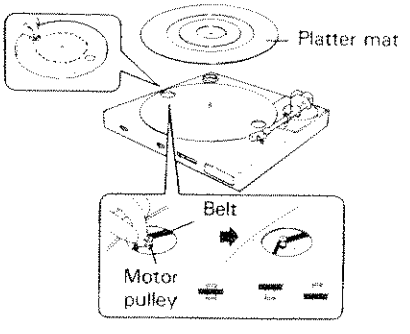
INITIAL TURNTABLE SET-UP

1. Check accessory items and attaching pieces.

EP Adaptor

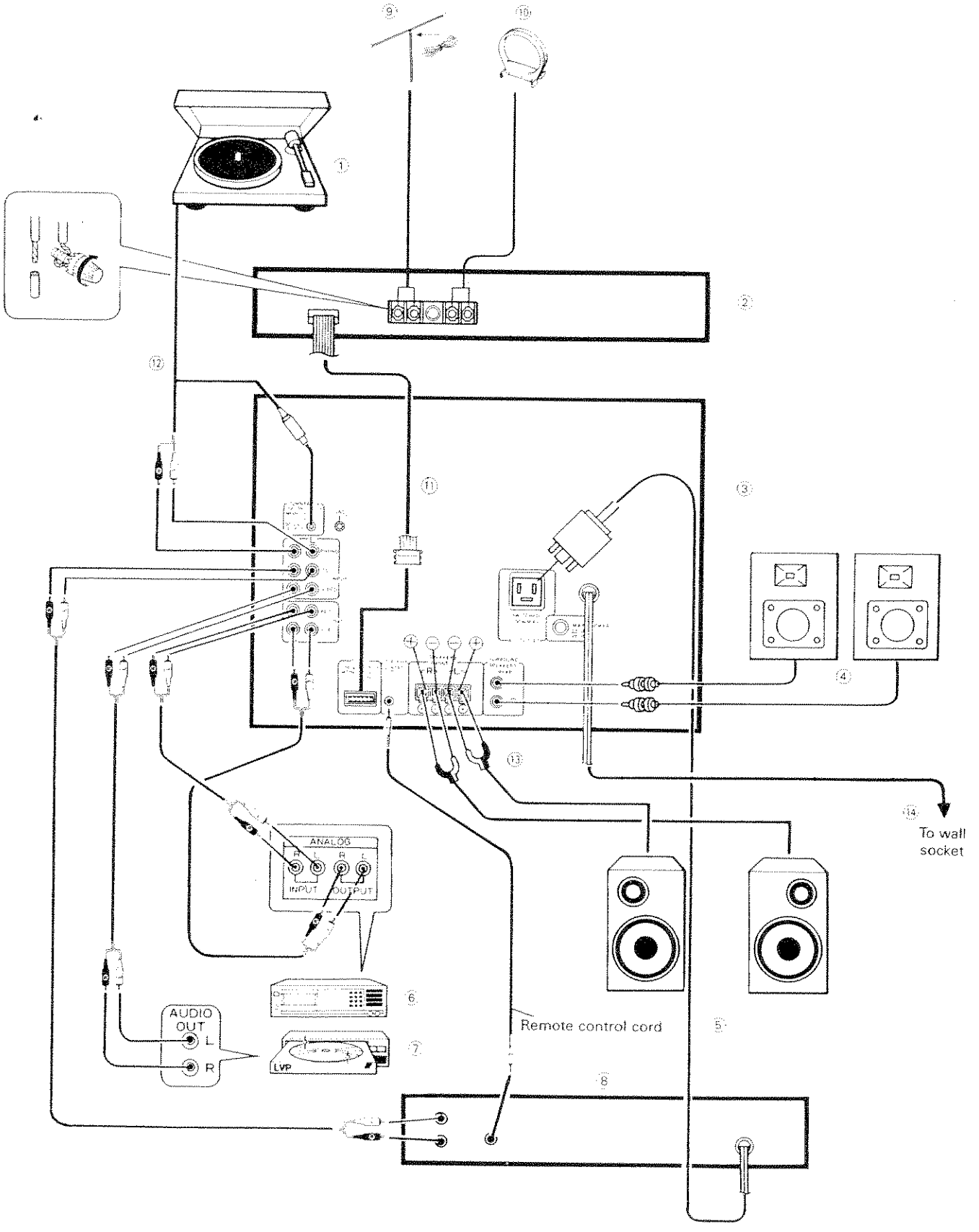
2. Hook the turntable drive belt over your finger.

3. Set the platter onto the turntable so that the platter shaft passes through it. Hook the drive belt over the motor pulley. Rotate the platter a few times by hand to make sure that the belt is correctly in place.



4. Place the platter mat on top of the platter.
5. Remove the band securing the tonearm.
6. Disconnect the tonearm from the arm rest.
7. Remove the stylus guard.

CONNECTIONS



Refer to page 4 for the connections diagram.

1 Turntable
2 FM/AM tuner
3 Cassette tape deck amplifier
4 Surround speaker system
5 Speaker system
6 Digital audio tape deck
7 LaserVision player
8 CD player (Separately sold PD-Z71 or PD-Z81M)
9 Accessory FM T-type antenna
10 Accessory AM loop antenna
11 Tuner input/output cord
12 Turntable output cord
13 Speakers cord
14 Power cord

Plug the power cord into the AC wall socket outlet only after all the connections have been completed. Keep the main power switch at the OFF position.

Proceed as follows with the set-up and connections.

1. **Place the tuner on top of the cassette tape deck amplifier.**
2. **Connect the tuner input/output cord** 11 **to cassette tape deck amplifier.**

   TUNER CONNECTION

   Insert the connector obliquely from above, and push it down until it locks, thus ensuring that it is connected. When disconnecting the connector, pull it in the opposite direction while pressing the left and right claws.

3. **Connect the FM antenna** 9 **and the AM antenna** 10 **to the tuner's antenna terminals.**
4. **Place the turntable on top of the tuner.**
5. **Connect the turntable's cords** 12 **to the cassette tape deck amplifier's jacks. If any other stereo component is to be used, connect it in the same way to the CD, VIDEO and DAT jacks.**

   NOTE:

   - Insert the plugs securely into the jacks. Improper connection can lead to sound distortion or malfunctioning.
   - The white plug is for the left channel connection and the red plug for the right channel connection.

6. **Connect the speaker cords** 13 **to the SPEAKERS terminals.**

   Connect the "+" terminals on the deck amplifier to the "+" terminals on the speakers, the "—" terminals on the deck amplifier with the "—" terminals on the speakers.

   NOTE:

   Do not allow the conductors of the cords to project beyond the terminals and to come into contact with other conductors. A breakdown or failure may occur when conductors touch one another.

   Speaker impedance

   Connect speaker systems with a nominal impedance of between 6 and 16 ohms.

7. **Finally, connect the power cord** 14 **to the AC wall socket.**

ANTENNA CONNECTIONS

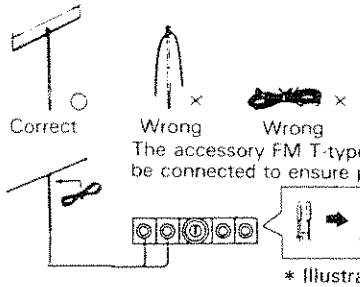
Radio reception is not possible unless the antenna is properly connected.

The strength of broadcast signals varies from one area to another (signal propagation is especially poor in metropolitan areas, where there are many tall buildings, and in mountainous areas). Proper antenna installation is vital to good reception.

FM ANTENNA

FM T-type Antenna Attachment

Connect the accessory FM T-type antenna to the FM terminals. Stretch the antenna out to its full length, and affix it to a wall, etc.
Stretch out both ends.

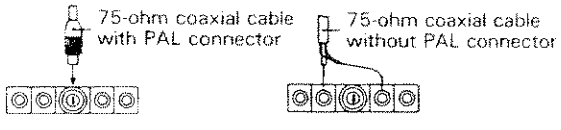


* Illustration shows F-Z91L

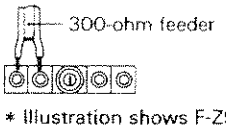
External FM antenna installation

Use an external antenna when the signals from the station are weak and cannot be picked up by the accessory T-type FM antenna, or when the sound heard is accompanied by large amounts of noise. There are two ways of connecting the external FM antenna to the ANTENNA terminals: with 300-ohm feeder wire, or with a 75-ohm coaxial cable. It is recommended that you use the 75-ohm coaxial cable, so that the effects of extraneous noise are reduced to a minimum.

When the connecting cable is a 75-ohm coaxial cable



When the connecting cable is a 300-ohm feeder wire



* Illustration shows F-Z91L

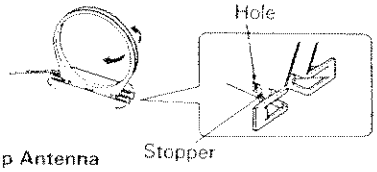
AM ANTENNA

The AM loop antenna supplied with the tuner should be connected to the AM antenna terminals. The antenna should be placed at a distance from the turner, and should not be allowed to touch metallic objects. Avoid placing it near CD players, personal computers, television sets, and other devices generating radio frequencies.

Setting Up the AM Antenna

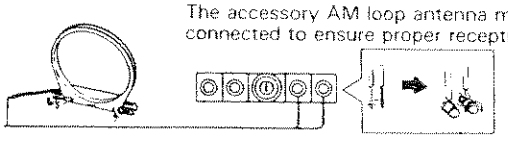
- Fold out the supports on the bottom of the antenna. Insert the stopper in the hole in the antenna to lock them in place.
- Place the antenna on a level surface and rotate it to locate the orientation that yields the best reception.

AM Loop Antenna Set-Up.



AM Loop Antenna Connection

The accessory AM loop antenna must be connected to ensure proper reception.



* Illustration shows F-Z91L

External AM antenna

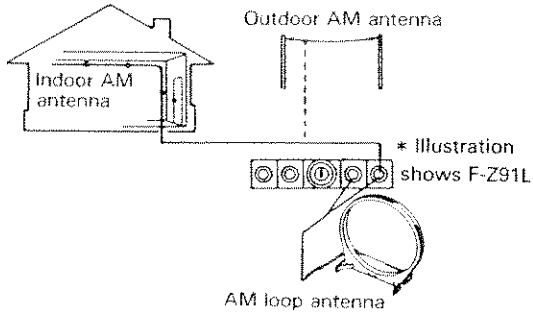
Indoor AM antenna

Provide a vinyl-coated wire (5 to 6 meters long). Secure one end to the AM terminal and the other end to a wall or other high location.

Outdoor AM antenna

If reception is still poor even when a lead antenna has been stretched out indoors, stretch out a vinyl-coated wire and secure it outdoors.

Connecting the external AM antenna



NOTE:

Do not detach the AM loop antenna when using the external AM antenna.

AM/FM CHANNEL STEP SWITCH

This switch is not provided on models for use in Europe, North America, or Australia.

The adjustment is only necessary when there is a CHANNEL STEP switch on the near panel.

The AM/FM channel step switch is located on the rear panel of the digital synthesizer tuner. Before the tuner leaver the factory, this switch is set to the channel allotment plan of the area in which the tuner is sold. When the TUNING switch is given a single push, the frequency display will change in the following units.

[100 kHz/10 kHz] position:

Set to this position for areas with FM reception step of 100 kHz and AM 10 kHz.

[50 kHz/9 kHz] position:

Set to this position for areas with FM reception step of 50 kHz and AM 9 kHz.

NOTE:

- *If the switch is set to the wrong position, correct tuning will not be possible.*

Consult your dealer if you are not sure about the channel allotment plan in your area.

SURROUND SYSTEM

What is surround sound?

With ordinary stereo, sound normally comes only from speakers in front of the listener. In a concert hall or theater though, sound reflected from the walls and ceiling reaches the listener from all directions. This is what accounts for the feeling of ambience or spaciousness of a live performance.

Surround sound works to reproduce these effects to produce fuller, more "live" sound.

NOTE:

If the surround speaker systems (sold separately) are used they will reproduce normal stereo sound when the SURROUND switch is not pressed.

STEREO WIDE

When the surround speakers are not connected, the stereo wide function will be activated. This function enhances the stereo effect. Note that it does not operate in the case of a monaural source, however.

Speaker System Placement Examples

The sound effects obtained in a surround system depend on speaker placement. Experiment with various arrangements to find the one most suited to your tastes.

Placing the speakers so that they are slightly higher than ear level contributes to sound quality.

(Case A)

Good sound dispersion; recommended for movies, etc.

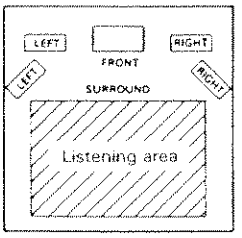
(Case B)

Sound appears to come from directly in front of listener. Good for listening to music recordings.

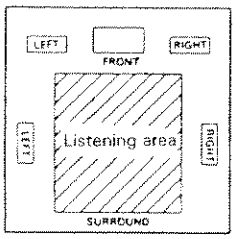
(Case C)

Offers most varied effects; good for watching sports programs or listening to live recordings.

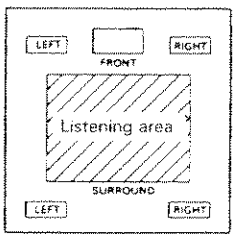
(Case A)



(Case B)



(Case C)



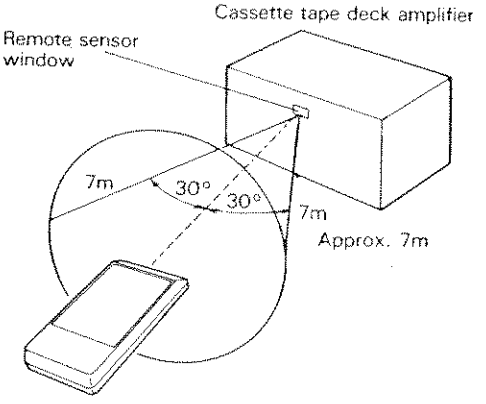
Range of remote control

When the remote control unit is pointed at the remote control sensor window on the deck amplifier and any of its keys is pressed, the unit and other components can be operated by remote control.

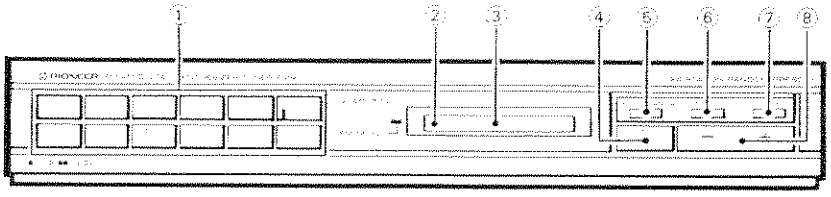
Distance: Within a range of about 7 meters from the unit's remote control sensor window.

Angle: Within approx. 30 degrees from the center of the unit's remote control sensor window.

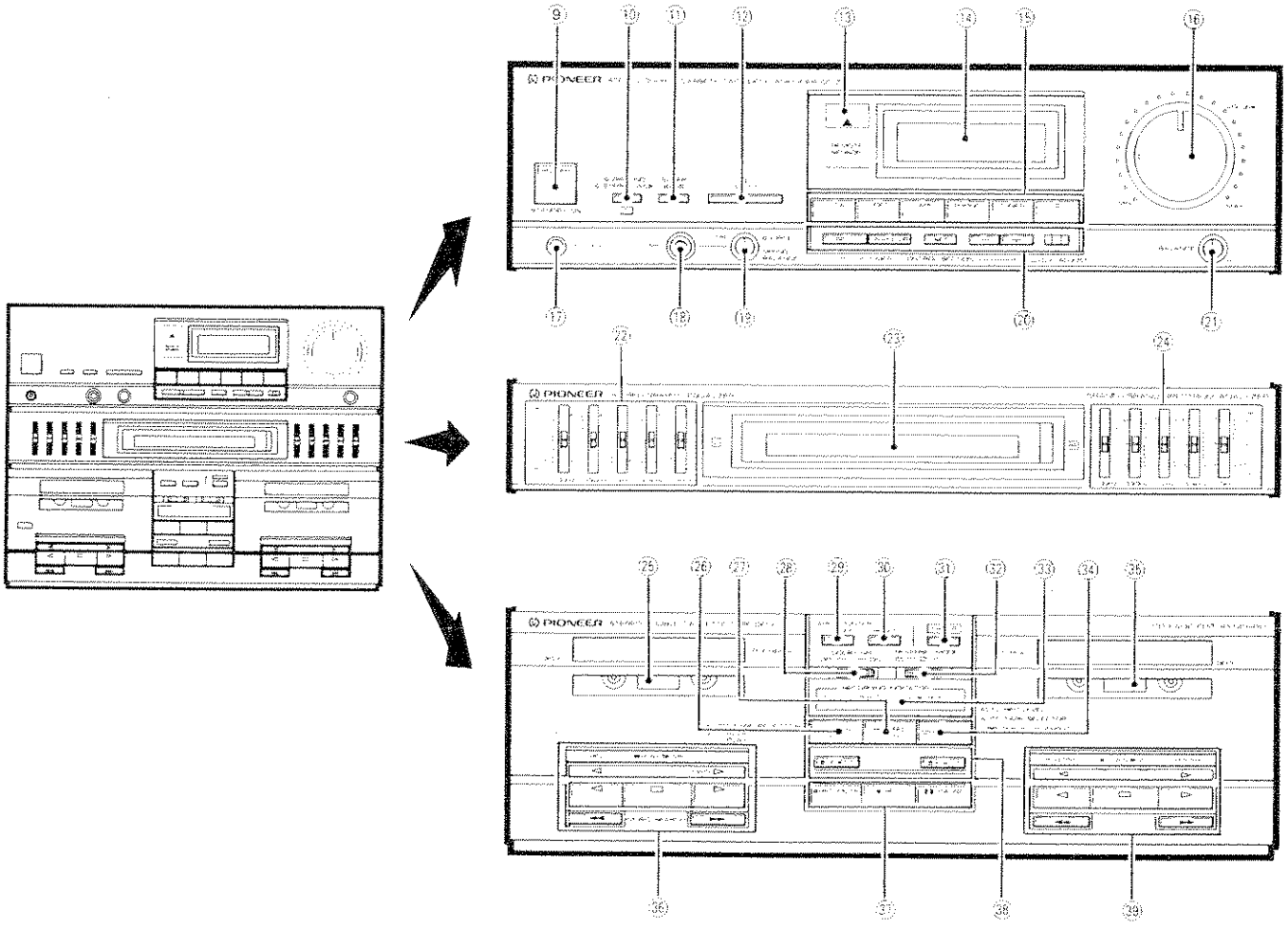
Remote control will not be possible if there is an obstacle between the remote control unit itself and the unit's remote sensor window.

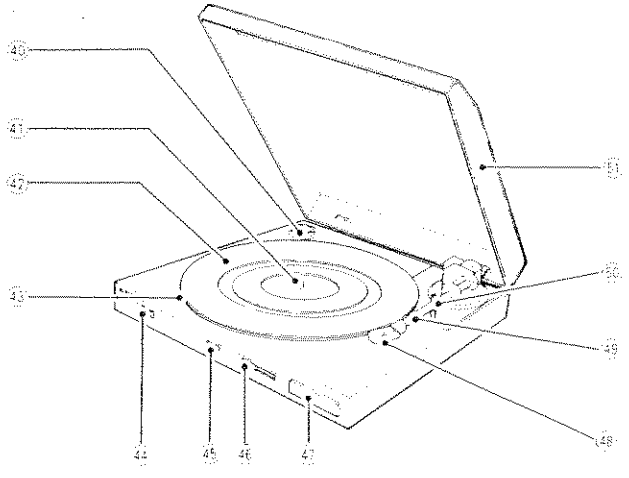


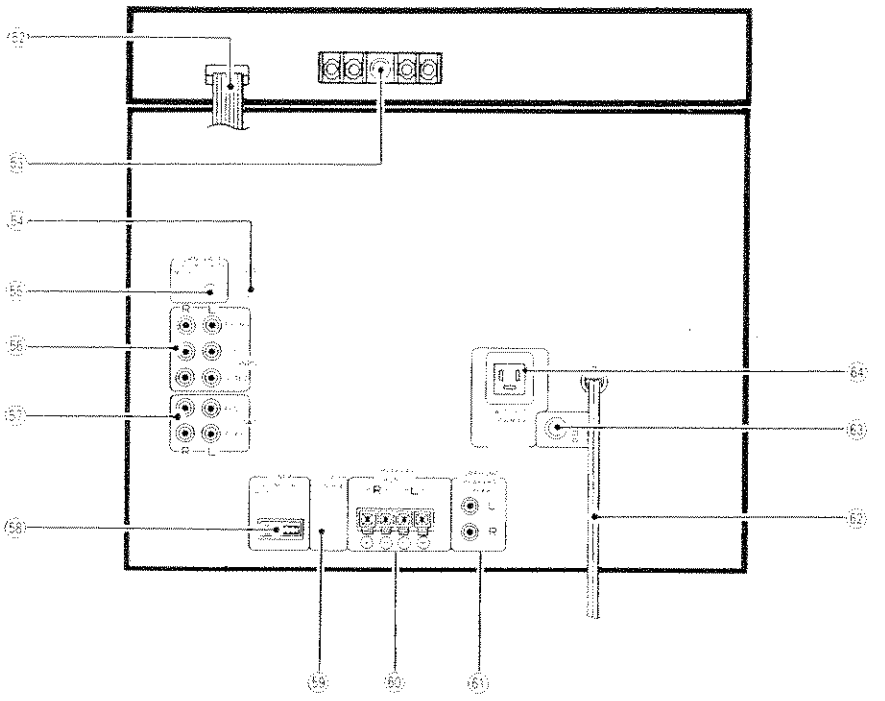
PANEL FACILITIES

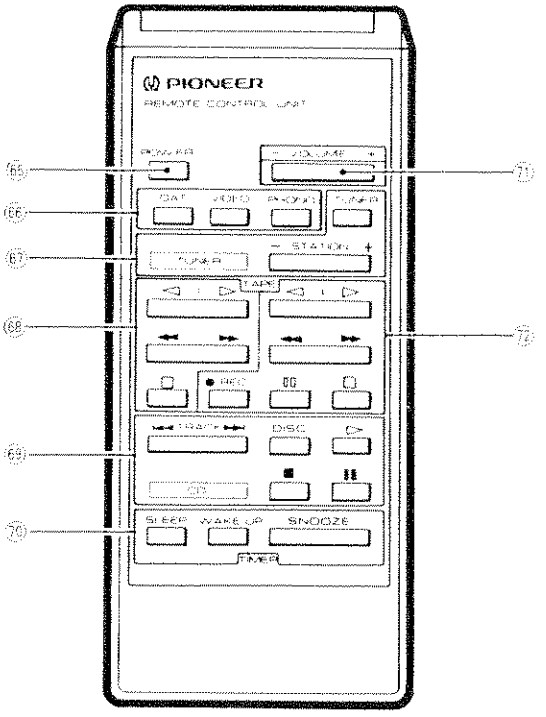


* Illustration shows F-Z91









Tuner: F-Z91/F-Z91L

① STATION CALL switches
These are used to recall preset broadcasting stations and to preset the station.

② FM MONO indicator
Usually turn this indicator off. If the desired FM station is weak and difficult to receive, press the MODE switch to turn the indicator on. Reception will be monaural, but the noise will be reduced, making listening more pleasant.

③ FREQUENCY display
Permits reading the received frequency at a glance from the displayed figure. The FM band is indicated by MHz, and the AM (MW or LW) band by kHz.

④ BAND selector switch
[For model F-Z91]
Each time this switch is pressed, FM or AM reception is selected alternately.
FM and MHz light: FM reception
AM and kHz light: AM reception
[For model F-Z91L]
Each time this switch is pressed, FM, MW or LW reception is selected alternately.
FM and MHz light: FM reception
AM and kHz light: MW or LW reception

⑤ AUTO/MANUAL switch (F-Z91 only)
Use to select either the AUTO mode or MANUAL mode for FM/AM reception.

⑥ MEMORY switch
This switch is used to memorize stations. When the switch is pressed, the frequency display will flash. To memorize the frequency of any station, press the station call switch while the frequency display is flashed.

⑦ MODE switch
This switch is used for switching between stereo and monaural when receiving FM stereo broadcasts.

⑧ TUNING switch
This is used to locate the stations.
Push either side of this switch; the left side "−" to go to a lower, and the right side "+" to go to a higher frequency.

Cassette deck amplifier DC-Z91

- This unit is provided with an automatic tape selector function.
- Tapes can be played back on deck I; tapes can be played back and recorded on deck II.
- Sound can be recorded with the quality which has been adjusted by the graphic equalizer.

Amplifier section

⑨ POWER STANDBY/ON switch
When this switch is pressed power is supplied to the unit. Press the switch again to turn power standby.

⑩ SURROUND & STEREO WIDE switch
When surround speaker systems are connected to the SURROUND SPEAKERS jacks at the rear:
By turning this switch ON, you can enjoy surround reproduction.
When surround speaker systems are not connected: By turning this switch ON, you can enjoy STEREO WIDE reproduction with greater left-right spread.

NOTE:
In the case of a monaural source, a SURROUND/STEREO WIDE effect cannot be obtained.

⑪ SUPER BASS switch
Press this switch to further emphasize the low bass.

⑫ CD DIRECT switch
Press this switch to listen to the CD without passing the signals through the sound quality adjustment circuit.

⑬ REMOTE SENSOR window

⑭ OPERATING INDICATOR
This displays the various operating modes and the time.

⑮ FUNCTION switches
[DAT]
Press when listening to a Digital Audio Tape deck connected to the DAT jacks.
[VIDEO]
Press when listening to a stereo component connected to the VIDEO jacks.
[TAPE]
Press when listening to a cassette tape.
[PHONO]
Press when playing records on a turntable connected to the PHONO jacks.
[TUNER]
Press when listening to a radio broadcast.
[CD]
Press when listening to a CD player connected to the CD jacks.

⑯ VOLUME control

⑰ Headphone jack (PHONES)
For miniature stereo phone plug.

⑱ MIC jack
This is a standard jack for connecting the microphone.

⑲ MIXING control
This is used to adjust the proportion of the microphone volume and volume of the other sound source for mixing.

⑳ TIMER CONTROL FUNCTION switches
Use these switches for setting the times for timer playback and recording.
[REC]
Used for setting time for timer recording.
[WAKE UP]
Used for setting time for timer playback.
[SET]
Used for continuing on to next operation when setting the time or timer.
[−, +]
Used for decreasing (−) or increasing (+) the values when setting the time or timer.
[CLOCK ADJ]
Used for setting the current time.

㉑ BALANCE control
Usually set this control to the central position. If turned counterclockwise, the volume of the right channel will decrease.
If turned clockwise, the volume of the left channel will decrease.

Graphic Equalizer section

㉒, ㉔ Graphic equalizer controls (GRAPHIC EQUALIZER)
Fine adjustments in sound quality are possible using the 5 controls on the graphic equalizer. The controls on the left side are for the left channel, those on the right side for the right channel.

㉓ SPECTRUM ANALYZER

Cassette Tape Deck Section

㉕ Cassette door (Deck I)

㉖ NORMAL COPY switch
Permits you to listen to playback normally during dubbing (normal speed copying).

㉗ HI-SPEED COPY switch
High speed dubbing
(double-speed, half-time copying).

㉘ DOLBY NR switch
Set this switch to the ON position to activate the noise reduction system.

- Tapes recorded using Dolby noise reduction should always be played back with the noise reduction system on. Sound quality will be adversely affected if they are played back with the system off, or if tapes recorded using a different noise reduction system are played back with the Dolby NR system on.
- It is recommended that tapes recorded using Dolby B NR be so marked on the label. This will help to prevent incorrect setting of the noise reduction switch during playback.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.

㉙ COUNTER I/II/OFF switch
Press this switch to switch the tape counter display between deck I, deck II and off (time).

㉚ RESET switch
Press this switch to reset the tape counter display to 0000.

㉛ FADER switch
This switch is used to gradually fade out a recorded loaded tape in deck II. (The sound will be completely cut off after approximately 10 seconds and the tape will stop.)

㉜ REVERSE MODE switch

Switch position	During playback	During recording
RELAY PLAY	Deck I ⇒ Deck II	—
⇉	Single-side playback	Single-sided recording
⇄/⇉ REC	Continuous playback *	Double-sided recording

* 6 round trips

㉝ REC INDICATOR
This lights when recording, and flashes when copying a tape.
- Slow flashing..... Normal copy
- Rapid flashing..... High speed copy

㉞ CD FADE EDIT switch
Use this for synchro-copying from a CD onto a tape. The sound will fade out at the end of the tape.

㉟ Cassette door (Deck II)

㊱ Deck I Operation switches/indicators
▷ PLAY (FWD)..... For playing back a tape in the forward mode.
◁ PLAY (REV)..... For playing back a tape in the reverse mode.
□ STOP..... For stopping the tape.
►► FAST..... Fast forward in forward mode, rewind in reverse mode.
◄◄ FAST..... Rewind in forward mode, fast forward in reverse mode.
◁ , ▷ indicators .... These light during playback, and flash during the music search operation.

㊲ Deck II Operation switches
O REC MUTE..... For creating the blanks between tape programs.
● REC..... Set to recording standby mode.
▮▮ PAUSE..... Temporarily stops tape travel. Cancels pause mode when pressed again or press the PLAY switch.

㊳ EJECT buttons
Push to open the cassette door.

㊴ Deck II Operation switches/indicators
▷ PLAY (FWD)..... For playing back a tape in the forward mode.
◁ PLAY (REV)..... For playing back a tape in the reverse mode.
□ STOP..... For stopping the tape run.
►► FAST..... Fast forward in forward mode, rewind in reverse mode.
◄◄ FAST..... Rewind in forward mode, fast forward in reverse mode.
◁, ▷ indicators.... These light during playback, and flash during the music search operation.

Turntable: PL-Z91/PL-Z81

㊵ EP adaptor

㊶ Platter shaft

㊷ Platter mat

㊸ Platter

㊹ SPEED switch
Set this switch in accordance with the speed of the record.
33: For 33-1/3 rpm records.
45: For 45 rpm records.

㊺ DISC SIZE switch (only PL-Z91)
Set this switch in accordance with the size of the record.
30: For 30 cm LP records.
17: For 17 cm EP records.

㊻ ARM ELEVATION switch
- Use the switch for manual play.
- Use the switch to suspend record play temporarily.
- Use the switch when changing the tracks during actual play.

[UP]: The tonearm rises (the stylus moves away from the record.)
[DOWN]: The tonearm descends (the stylus is lowered onto the record.)

㊼ PLAY/STOP switch (only PL-Z91)
Press this switch when starting auto play or when stopping play.

NOTE:
Be sure to press the switch firmly when starting playback; if not pressed firmly, the platter may rotate without the tonearm moving.

CUT switch (only PL-Z81)
Press this switch when stopping play.

㊽ Cartridge

㊾ Tonearm

㊿ Arm rest

(51) Dust cover

NOTE:
PL-Z81 is not equipped with disc size switch.

㉜ TUNER input/output cord
Connect to the TUNER jack of the deck amplifier.

㉝ FM/AM antenna terminals
Antennas must be connected to these terminals: otherwise you will not be able to receive stations. See page 6 for details on antenna connections.

㉞ Ground terminal (GND)
Connect this to the ground terminal on the turntable (except for PL-Z91 and PL-Z81).

㉟ TURNTABLE OUTPUT jack
This jack supplies power to the PL-Z81 or PL-Z91.

㊱ INPUT jacks
PHONO: Connect the output cord on the turntable to these jacks.
CD: Connect the output cord on the compact disc player to these jacks.
VIDEO: Connect the audio output cord of the LaserVision player (Video disc player) or hi-fi VCR to these jacks.

㊲ DAT jacks
Use these jacks to connect a digital audio tape deck (DAT) or other stereo component.
REC: Connect to the analog audio input terminals of the DAT.
PLAY: Connect to the analog audio output terminals of the DAT.

㊳ TUNER jacks
Connect the F-Z91 (L) FM/AM tuner.

㊴ CD PLAYER CONTROL OUT jack
Connect this jack to the CONTROL IN jack of a CD player with mark.
- This jack enables the remote control unit provided with the deck amplifier to exercise central control over the CD player. It also enables synchronized recording of CDs (for the PD-Z71 and PD-Z81M only).

㊵ SPEAKERS terminals
L: Connect the left speaker system as seen from the listening position.
R: Connect the right speaker system as seen from the listening position.

NOTE:
Connect a speaker system having a nominal impedance ranging from 6 ohms to 16 ohms.

㊶ SURROUND SPEAKERS terminals
Connect the Surround speaker systems

NOTE:
Connect a speaker system having a nominal impedance 16 ohms.

㊷ Power cord
Connect this to the AC wall socket.

㊸ MAIN POWER switch
[ON] ▬
While this unit is in a standby status and the power cord is connected to the wall socket, the circuit of the unit will operated continuously. When not using the unit for a long period, either switch the unit OFF, or remove the power cord from the power socket.
[OFF] ■
When the switch is OFF, the power to the unit will be cut off.

㊹ AC OUTLET (SWITCHED)
Power supplied through these outlets is turned on and off by the deck amplifier's POWER switch. Total electrical power consumption of connected equipment should not exceed 100 W.

NOTE:
Do not connect appliances with high power consumption such as heaters, irons, or television sets to the AC OUTLET in order to avoid overheating or fire risk.
This can cause this equipment to malfunction.

㊺ POWER key

㊻ Function keys
DAT ..... Sets function to DAT.
VIDEO..... Sets function to VIDEO.
PHONO ..... Sets function to PHONO.

㊼ Tuner operation keys
TUNER..... Sets function to TUNER.
STATION
- Preset the stations before operating.
  + ... Stations change in order in the upward direction
  − ... Stations change in order in the downward direction.

㊽ DECK I keys
▷..... Forward play key
◁..... Reverse play key
□..... Stop key
►► ..... Fast key
◄◄ ..... Fast key

㊾ CD keys
Perform the connections so that the CD player is operated by the remote control unit.
▷ ..... Play key
DISC ..... DISC selector key (only Multi-play CD player)
■ ..... STOP key
▮▮ ..... PAUSE key
⏮ , ⏭ ..... TRACK search key

NOTE:
Note that the DISC selector key on the accessory remote control unit may not function, depending on the CD player used.

㊿ Timer operation keys
SLEEP..... This key is used to set the sleep timer. The minutes change from 90 to 60 to 30 to 00 each time the key is pressed.
WAKE UP..... This key is used to set the timer. It can be used in the same way as the WAKE UP button on the deck amplifier.
SNOOZE..... When this key is pressed after timer playback begins, playback will be interrupted momentarily then start again after approximately 5 minutes.

(71) VOLUME up/down key

(72) DECK II keys
▷..... Forward play key
◁..... Reverse play key
►► ..... Fast key
◄◄ ..... Fast key
□..... Stop key
▯▯ ..... Pause key
● ..... REC key

The function of the deck amplifier automatically switches when the CD or TAPE play keys (▷ or ◁) on the remote control unit are operated. The CD or deck will continue to operate after the function is switched, so press the stop key if necessary.
To operate with the remote control unit, use the keys with the same function indicating symbols (for example ▷) as those shown on the components.

NOTE:
It is not possible to operate the CD player with the remote control unless the remote control cord is connected (refer to Page 4).

HOW TO HANDLE CASSETTE TAPES

Bear in mind the following points before loading cassette tapes.

Is the tape loose, or is some of the tape outside the cassette?

If some of the tape is projecting outside the cassette shell or if it is loose, it may not enter between the capstan and pinch roller. This will prevent the tape from being supplied or damage the tape itself. In cases like these, insert a pencil into the reel hole and take up the slack. (Fig. A) Some cassette tapes come with a plastic or thick paper stopper which prevents tape slack. Remove this stopper when loading the tape and replace it after having used the cassette.

What are the accidental erasure prevention tabs for?

A cassette is provided with these tabs so that important or otherwise valuable recordings will not be erases accidentally. When the tab (Fig. B) on the cassette shell is broken out with the tip of a screwdriver, it will not be possible to activate the recording function even by pressing the recording (REC) switch, so valuable recordings will not be erased in error.

To re-record on a cassette whose tabs have been broken out, simply stick a piece of doubled adhesive tape over the tab areas, as shown in Fig. C.

NOTE:

The accidental erasure prevention tabs are located at the top left on both sides A and B (1 or 2), so that material on each side can be prevented from being erased in error.

Tips on using cassette tapes

- Leader tape (which does not allow sound to be recorded over it) is provided at the beginning of a cassette tape. Start recording after allowing the tape to run for about 5 seconds so that the leader tape clears the recording head.
- Do not leave a cassette tape exposed to the environment. Store the cassette in its case so that dust and dirt do not adhere to the tape after use, and so that the tape is prevented from becoming slack. Choose a location which is not exposed to the effects of magnetism, dust, dirt and oil for storing the tapes.
- Because C-120 tapes are so thin, they easily jam in the pinch roller and capstan, and they are susceptible to other trouble such as irregular winding. Try not to use them with this unit.
  Use tapes of 90 minutes or less.

Fig. A

How to take up tape slack.

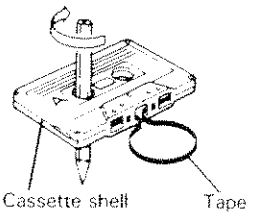
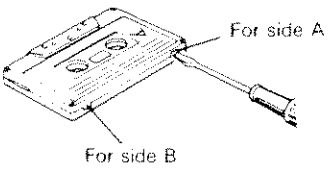


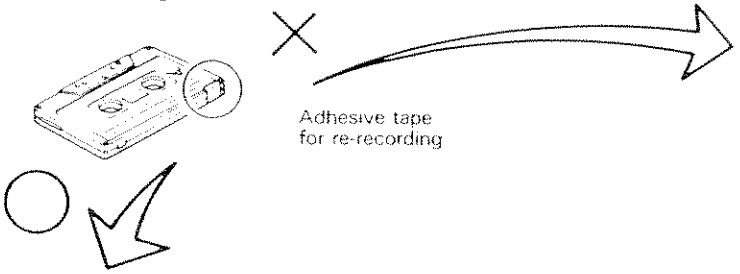
Fig. B

How to prevent already recorded tapes from being erased



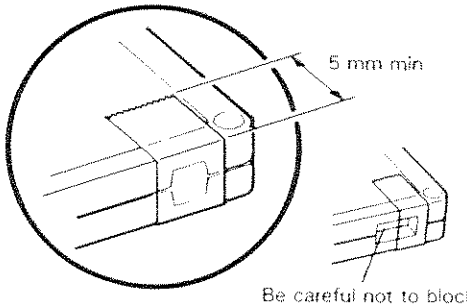
NOTE FOR RE-RECORDING ON A CASSETTE TAPE WHICH HAS A BROKEN TAB

Fig. C



CORRECT METHOD OF APPLYING TAPE

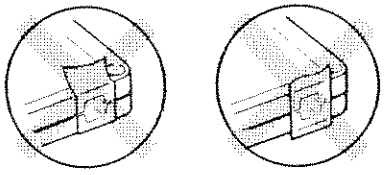
- Apply two layers of cellophane tape.
- Apply the tape taut so that it does not rise up.



Be careful not to block the tape identification detection hole (metal or chrome tape).

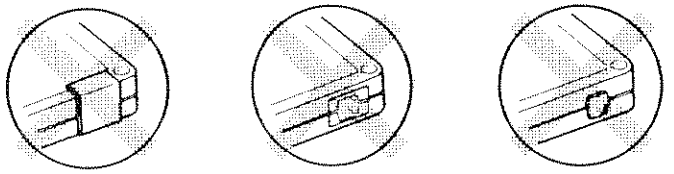
INCORRECT METHOD OF APPLYING TAPE

THIS MAY RESULT IN AN ACCIDENT



Curled tape

Protruding tape



Applying vinyl tape, gum tape, or other tape apart from cellophane tape.

Applying top portion only.

Insertion of an eraser or the like.

After removing the cellophane tape, completely wipe away all traces of paste. Use only alcohol or benzine.

GRAPHIC EQUALIZER CONTROLS

The advantage of the GRAPHIC EQUALIZER over conventional tone controls is that with the five controls of the GRAPHIC EQUALIZER it is possible to control five different narrow, distinct sections of the audio band width by up to ± 7 dB. With conventional tone controls a setting for a bass or treble boost or cut will also affect the lower or upper mid frequencies. The frequency bands controlled by the five slide controls have been chosen to yield the maximum possible control action within the audio spectrum.

100 Hz: The 100 Hz control is very useful in enhancing low bass notes as in organ music.

330 Hz: The 330 Hz control will allow you to vary the upper bass frequencies.

1 kHz: The 1kHz control is the presence control and can be used very effectively to emphasize, or de-emphasize vocalists.

3.3 kHz: The 3.3 kHz control will add brilliance and clarity to brass instruments and violins.

10 kHz: The 10 kHz control can be used to make up for missing high frequencies absorbed by the environment and to add a natural crispness to music.

BASIC OPERATIONS

Press the rear MAIN POWER switch to the on position.

SETTING THE TIME

It is only necessary to adjust the time if the time is incorrect.

1. Press the CLOCK ADJ button.
2. Use the "–" and "+" buttons to set the hours.
3. Press the SET button.
4. Use the "–" and "+" buttons to set the minutes.
5. Press the SET button when "00" seconds of that minute are reached.

ABOUT THE FUNCTION SWITCH

Select the FUNCTION switches before operating any of the equipment.

Auto Function (F-Z91 (L), DC-Z91 / PD-Z71, PD-Z81M)

This model is equipped with the "auto function" operation, so when the switches for playing the CD, tape, or tuner are pressed, the amplifier's function switches automatically. However, the deck or other connected equipment will continue to function, so stop them if necessary.

LISTENING TO THE BROADCASTS

F-Z91

Auto tuning

1. **Press the cassette tape deck amplifier's POWER switch to the on position.**
2. **Select the desired broadcasting band using the BAND selector switch.**
3. **Press the AUTO/MANUAL switch to establish the auto tuning mode (the AUTO indicator will light).**
4. **Press the "+" or "–" TUNING switch for higher or lower frequency.**
   The frequency will change rapidly during scanning. The auto tuning will stop automatically when the station is located and the TUNED indicator will light up.

NOTE:

When the auto tuning is in use, reception may not be possible over long distances or when signals are weak. At these times manual tuning is recommended.

5. **Adjust volume with the VOLUME control and the tone with the GRAPHIC EQUALIZER controls.**

Manual tuning

1. **Press the cassette tape deck amplifier's POWER switch to the on position.**
2. **Select your desired broadcasting band using the BAND selector switch.**
3. **Press the AUTO/MANUAL switch to establish the manual tuning mode (the AUTO TUNING indicator goes off).**
4. **Press the TUNING switch to locate the frequency of your desired station.**
   For step-by-step searching, press the TUNING switch once and release it immediately. For continuous rapid scanning keep the TUNING switch pressed. The TUNED indicator will light up when the station is tuned in best.

F-Z91L

1. **Press the cassette tape deck amplifier's POWER switch to the on position.**
2. **Select your desired broadcasting band using the BAND selector switch.**
3. **Press the TUNING switch to locate the frequency of your desired station.**
   For step-by-step searching, press the TUNING switch once and release it immediately. For continuous rapid scanning keep the TUNING switch pressed. The TUNED indicator will light up when the station is tuned in best.

NOTE:

The TUNED indicator will not function for broadcasts received over long distances or when signals are weak.

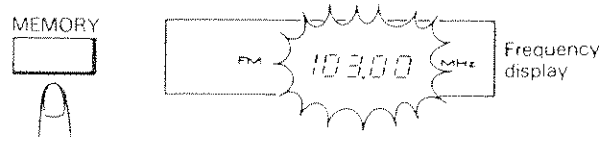
4. **Adjust the volume with the VOLUME control and the tone with the GRAPHIC EQUALIZER controls.**

PRESETTING STATIONS

Presetting

From 1 to 24 FM/AM stations can be preset at random. Press the STATION CALL switch once for 1 – 12 (Mode 1) and twice for 13 – 24 (Mode 2).

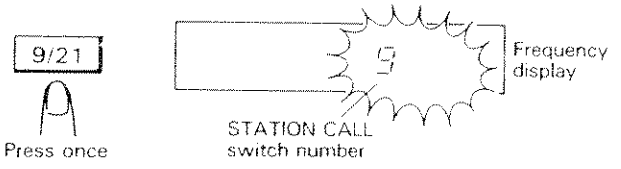
1. **Tune in desired station.**
2. **Press the MEMORY switch.**
   • The display will flash (about 10 seconds).



3. **Press the STATION CALL switch.**
   - While the display is flashing, press the switch corresponding to the station which you wish to preset or re-preset.

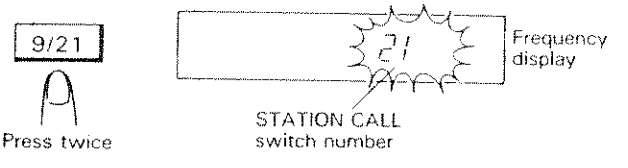
When presetting a station to Mode 1 (e.g. presetting a station to No. 9):

By pressing the STATION CALL switch once, the station will be preset to Mode 1.



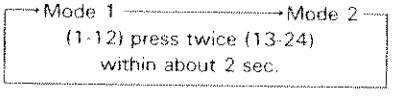
When presetting a station Mode 2 (e.g. presetting a station to No. 21):

Mode 2 stations are preset by pressing the STATION CALL switch twice within about 2 seconds.



- After you press the STATION CALL switch, the display will flash for about 2 seconds, then the station will be memorized. If you press another switch while the display is flashing, the station will not be memorized.

Pressing the STATION CALL switch twice within about 2 seconds switches alternately between Mode 1 and Mode 2.



RECEPTION USING PRESET TUNING

1. **Press the STATION CALL switch into which the desired station has been memorized.**
   - To listen to a Mode 1 broadcast, press the switch once, and to listen to a Mode 2 broadcast, press it twice.

   In this way, simple and accurate reception of any desired station is possible.

NOTE:

- *The contents of the STATION CALL switches will be preserved for several days, even if the deck amplifier's main power switch is in the OFF position or power cord is unplugged.*
- *If a preset station has been erased, re-preset it.*

Last Station Memory

- When the POWER switch is pressed to turn power on, the last station received before the power was previously turned STANDBY mode will be received again.
- When power is ON, if the BAND selector switch is pressed, the last station received before the BAND selector switch was previously pressed will be received again.

TAPE PLAY

Tapes may be played back in deck I or deck II but not in both decks at the same time.

1. **Press the cassette tape deck amplifier's POWER switch to the on position.**
2. **Press the EJECT button, and load a tape which has already been recorded.**
3. **Set the DOLBY NR switch to the desired position.**
4. **Select the REVERSE MODE switch.**
5. **Press the PLAY switch (▷ or ◁).**
   Press the PLAY switch of the deck into which the cassette has been loaded.
6. **Adjust the volume with the VOLUME control and the tone with the GRAPHIC EQUALIZER controls.**
7. **To stop playback, press the STOP switch (□).**

RECORDING ONTO A CASSETTE TAPE

Material can be recorded on deck II only. Recording is not possible on deck I. You can make a recording of a source which has passed through the graphic equalizer.

1. **Press the cassette tape deck amplifier's POWER switch to the on position.**
2. **Press the EJECT button, and load the tape for recording into deck II.**
3. **Set the DOLBY NR switch to the desired position.**
   - A tape which has been recorded using the DOLBY NR system must be played back using the same system.
4. **Select the REVERSE MODE switch.**
5. **Use the FUNCTION switch to locate the program source which is to be recorded any play that source.**

Program source	Selected indicator display	Operation
Compact disc	CD	Playing a compact disc
Turntable	PHONO	Operate the turntable
Radio broadcast (air check)	TUNER	Tuning into a broadcast
Tape	TAPE	Playing a tape in deck I
Equipment which is connected to the VIDEO terminals	VIDEO	Operating equipment which is connected to the VIDEO terminal
Digital Audio Tape deck (Equipment which is connected to the DAT terminals)	DAT	Operate the Digital Audio Tape deck. (Operate the equipment)

6. **Adjust the graphic equalizer controls when changing the sound quality and recording the resulting sound.**
7. **Press the REC switch (●).**
   - The REC indicator now lights.
   - The play indicator is now flashing.
8. **Press the PLAY switch (▷ or ◁).**

Auto reverse function

This unit uses rotary type recording and playback heads, and the same heads are used in both the forward and reverse directions. Tape end detection is employed to control auto reverse operation which takes place about 2 seconds after the tape is taken up.

NOTE:

A leader tape having a length equivalent to about 5 seconds is attached to an ordinary cassette tape. This means that for two-way travel of the leader tape there will be a break of about 12 seconds in the sound. Be very careful of this, particularly when making a two-way recording.

Pausing and restarting recording

9. **Press the PAUSE (▮▮) switch.**
   - Recording will be suspended.
10. **To restart recording again.**
   - Press the PAUSE (▮▮) switch or PLAY switch.

STOPPING PLAYING AND RECORDING

1. Press the STOP (□) switch.
2. Press the EJECT button and take out the tape.

Questions (Q) and answers (A) on recording

Q: How is the recording level adjusted?

A: This unit has a built-in automatic level control which dispenses with the need to adjust the recording level.

Q: What is the difference between the operation of playing a tape in one deck and recording the output onto a tape in another deck (tape dubbing), and tape copying?

A: For tape dubbing, DOLBY NR is used on the playback side, so the recording side is always recorded without DOLBY NR.
In other words, a tape which has been made by tape dubbing is always played back with DOLBY NR OFF.

Auto Stop Mechanism

With this model, the mechanism is automatically stopped when the end of the tape is reached during the recording, playback, fast-forward, or rewind operations so that the tape will not be stretched and the pinch rollers will not be deformed.

NOTE:

- *When the PLAY switch of one deck is pressed while the other deck is in the playback mode, the deck which was playing previously will stop and playback will begin on the new deck.*

PLAYING BACK THE COMPONENTS CONNECTED TO THE CD, VIDEO OR DAT JACKS

1. **Press the cassette tape deck amplifier's POWER switch to the on position.**
2. **Set the FUNCTION switch to the program source which is to be play that source. (When used in combination with the Pioneer PD-Z71 or PD-Z81M CD player, the function switches to CD when playback of the CD starts.)**
3. **Playback the component to be used.**

RECORD PLAY (PL-Z81)

1. **Press the cassette tape deck amplifier's POWER switch to the on position.**
2. Set the FUNCTION switch to PHONO.
3. Place the record on the platter mat.
4. Remove the stylus cover and release the tonearm from the arm rest.
5. Set the SPEED switch.
6. Move the arm elevation switch to the UP position.
7. Move the tonearm by hand across the record. At this stage, the platter starts to rotate.
8. Move the arm elevation switch to the DOWN position.
9. Adjust the volume with the VOLUME control and the tone with the GRAPHIC EQUALIZER controls.
10. To stop the player while a record is being played, press the CUT switch.

RECORD PLAY (PL-Z91)

Auto play

1. **Press the cassette tape deck amplifier's POWER switch to the on position.**
2. Set the FUNCTION switch to PHONO.
3. Place the record on the platter mat.
4. Remove the stylus cover and release the tonearm from the arm rest.
5. Set the SPEED and DISC SIZE switches.
6. Move the ARM-ELEVATION switch to the DOWN position.
7. Push the PLAY/STOP switch to start record play.
8. Adjust the volume with the VOLUME control and the tone with the GRAPHIC EQUALIZER controls.

NOTE:

- *When play is completed, the tonearm will return automatically to the arm rest.*
- *When playing 45 rpm records with large center holes, place the EP adaptor onto the platter shaft.*

9. To stop the player while a record is being played, press the PLAY/STOP switch.

Manual play

1. **Press the cassette tape deck amplifier's POWER switch to the on position.**
2. Set the FUNCTION switch to PHONO.
3. Place the record on the platter mat.
4. Remove the stylus cover and release the tonearm from the arm rest.
5. Set the SPEED switch.
6. Move the ARM-ELEVATION switch to the UP position.
7. Move the tonearm by hand to the desired position over the record.
8. Move the ARM-ELEVATION switch to the DOWN position.
   - The tonearm will descend onto the record and playback will start.
9. Adjust the volume with the VOLUME control and the tone with the GRAPHIC EQUALIZER controls.
10. To stop the player while a record is being played, press the PLAY/STOP switch.

RECORDING MUTING

During recording you can make non-recorded passages while listening to the input signal. Use this function to create non-recorded portions of at least 4 seconds, which are necessary for performing a music search.

1. **When the tape arrives at the point where a non-recorded portion is to be created, depress the REC MUTE switch (O) continuously.**
2. **After about 4 seconds, press the PAUSE (▮▮) switch while keeping the REC MUTE switch depressed.**
   - The unit will go into a pause condition, and the PLAY indicator will flash.
3. **To resume recording, press the PAUSE (▮▮) switch once again.**
   - You can also use the PLAY switch instead of the PAUSE (▮▮) switch.

If you press the REC MUTE switch while recording is taking place, a non-recorded portion will be created. Be careful, therefore, not to depress the switch other than when necessary.

NOTE:
REC MUTE switch does not operate in tape copy mode.

MICROPHONE MIXING FOR SINGING ALONG WITH RECORDED ACCOMPANIMENT

MIXING KNOW-HOW

Mixing involves combining the signals from two input sources (a microphone and a tape, for example).

SINGING ALONG WITH A SOURCE

1. **Press the cassette tape deck amplifier's POWER switch to the on position.**
2. **Plug a microphone into the MIC jack.**
3. **Adjust volume to a suitable level.**
4. **Set the MIXING control to the center position between MIC and SOURCE.**
   - If howling occurs (a high-pitched sound from the speakers), take the following steps.
     (1) Move the microphone away from the speakers.
     (2) Lower the volume.
5. **Select the desired program source using the FUNCTION switches.**
6. **Start playback of the program source.**
7. **Adjust the volume with the VOLUME control.**
8. **Using the MIXING control, adjust the sound balance between the microphone and the program source.**
9. **Sing along with the program using the microphone. Because both MIC and SOURCE inputs are controlled together by the mixing function, the MIXING control can also be used as a manual fader when recording.**
   - Fading refers to the recording technique in which the volume of an input source is gradually increased or decreased.

MIXING RECORDING

You can use the mixing feature to record input from a microphone and another source together.

1. **Perform steps 1 to 8 in the section "SINGING ALONG WITH A SOURCE."**
2. **Load a tape for recording into deck II.**
3. **Press the REC (●) switch on deck II.**
4. **Press the PLAY (▷ or ◁) switch on deck II.**
5. **Sing along with the program source.**

NOTE:
When not using the MIXING function, be sure to set the MIXING control to the SOURCE position.

COPYING TAPES

Duplicating the recorded contents of one tape onto another tape is known as tape copying. The contents of the tape in deck I can be copied onto the tape in deck II (but not vice versa.) Copying is not possible while either deck is operating. You cannot record a source using the graphic equalizer.

If a tape recorded with the DOLBY NR system is copied, the copied tape will also be recorded automatically with DOLBY NR system. If a tape recorded in the normal mode is copied, the copied tape will also be recorded automatically in the normal mode.

COPYING A TAPE WHILE LISTENING TO IT

1. **Press the cassette tape deck amplifier's POWER switch to the on position.**
2. **Load the pre-recorded tape into deck I and the copying tape into deck II.**
3. **Select the REVERSE MODE switch.**

REVERSE MODE switch	Operation
⟶ Single-side recording	One side is copied from deck I to deck II.
⟲/⟹ REC Double-sided recording	Both sides are copied from deck I to deck II.

4. **To listen to the tape while copying it, set the FUNCTION switch to TAPE.**

Even if the FUNCTION switch is set to another position, tape copying will still proceed, regardless of the switch position. The sound of the program source selected by the FUNCTION switch will be heard through the speakers.

5. **Press the NORMAL COPY switch.**
   - Deck I plays back while deck II records.
   - When the tape comes to the end due to the reverse mode setting, it will automatically stop.
6. **Press the STOP switch (□) on either deck to stop the copying at any time.**

COPYING A TAPE IN HALF THE TIME (AT DOUBLE THE SPEED)

1. **Press the POWER switch to the on position.**
2. **Load the pre-recorded tape into deck I and the copying tape into deck II.**
3. **Select the REVERSE MODE switch.**
   - Operation is the same as for "Copying a tape while listening to it".
4. **Press the HI-SPEED COPY switch.**

Tape copying proceeds, regardless of the FUNCTION switch position. The sound of the program source selected by the FUNCTION switch will be heard through the speakers.

   - When the tape comes to the end due to the reverse mode setting, it will automatically stop.
5. **Press the STOP switch (□) on either deck to stop the copying at any time.**

NOTE:

If you are using a TV in the vicinity of the unit, noise will be recorded. Either switch off the TV or move it away from the unit.

CD FADE EDIT (only when used in conjunction with the PD-Z71 or PD-Z81M)

With this function, a compact disc can automatically be copied onto a tape.

1. **Press the cassette tape deck amplifier's POWER switch to the on position.**
   Load a tape for recording into deck II.
2. **Turn the power of the CD player on and set the disc.**
3. **Press the CD FADE EDIT switch.**

Operate the deck amplifier and CD player as follows:

- **When Reverse Mode Switch is at "⇄"**

① **The cassette tape for recording is rewound to the beginning.**
② **Recording of the cassette tape begins in the forward direction.**
③ **Playback begins on the CD player.**
④ **When one side is recorded, the CD player is set to the pause mode, the cassette tape is rewound for approximately 3 seconds, and a fade out is recorded.**

- **When Reverse Mode Switch is at "⇄/⇉REC"**

The following operations are performed after steps ① through ④ above:

⑤ **Recording of the cassette tape begins in the reverse direction.**
⑥ **Playback of the CD will resume from the beginning of the track at which it was paused.**
If the CD is longer than the tape, the tape will be rewound for approximately 3 seconds and the fade-out operation will start, in the same way as for side A.

MUSIC SEARCH

You can perform music search during playback by carrying out the following operation.

1. **To listen to the program following the program on the tape now being heard, simply press the fast forward switch. To listen again to the program now being heard, press the rewind switch.**
   - During a music search, the indicator corresponding to the direction in which the tape is advancing will flash.
2. **When the tape is fast forwarded or rewound and a unrecorded blank between programs is located, the tape will then be played back.**

When doing music search, do not operate the other deck. Doing so may affect the track interval detection function.

NOTE:

When performing a music search on the following kinds of tape, the unit may misoperate. This is not a fault, however.

- *When using a tape which has non-recorded portions between tracks less than 4 seconds in length.*
- *When using a tape which has a high noise level between tracks.*
- *When using a tape which has low level or silent passages of several seconds in the same track, such as in the case of classical music.*
- *When using tape, such as a conversation tape, in which the voice is intermittent.*
- *When using a tape in which an extremely low sound level continues for at least 4 seconds in the same track.*

RELAY PLAYBACK

When the auto-stop mechanism of deck I is activated after reverse playback, the tape in deck II automatically starts playing in the forward mode, it continues in the reverse mode and then stops. Relay playback can do from deck II to deck I, and deck I to deck II.

Relay playback is possible for a maximum of 6 times.

1. **Press the cassette tape deck amplifier's POWER switch to the on position.**
2. **Load the playback tapes into deck I and deck II.**
3. **Set the REVERSE MODE switch to RELAY PLAY.**
4. **Press the PLAY switch (▷ or ◁) on deck I.**
   - RELAY PLAY will stop after six consecutive times.
   - The tape in deck I starts playing back. When it stops automatically as it comes to the end of the reverse side, the tape in deck II will start playing.
   - The tape in deck II will stop automatically when it comes to the end of its reverse side.
5. **To stop relay playback, press the STOP switch (□) of the operating deck.**

TAPE FADER (function for fading out recorded tapes)

With this function, it is possible to change any portion of a recorded tape into a fade-out. The sound will be cut off completely in approximately 10 seconds, after which operation will stop.

1. **Press the POWER switch to the ON position.**
2. **Load the recorded tape into deck II.**
3. **Operate deck II to set the tape to the beginning of the portion to be faded out.**
4. **Press the FADER switch.**
   - The deck will be set to the record standby mode.
5. **Press the PLAY switch (▷ or ◁).**
   - The fade-out operation will start, then stop after approximately 10 seconds.

When the tape is played back, the sound will gradually start decreasing from the beginning of the faded portion, and be cut off completely in approximately 10 seconds.

TIMER PLAYBACK (Each day)

A compact disc, cassette, or the radio broadcast can be used as an alarm clock.

Tape playback

- Timer playback is possible with a cassette tape loaded in deck I.
- Relay playback is possible by loading cassette tapes in both deck I and deck II and setting the reverse mode switch for relay playback.

Compact disc playback (only for CD players equipped with a timer playback function)

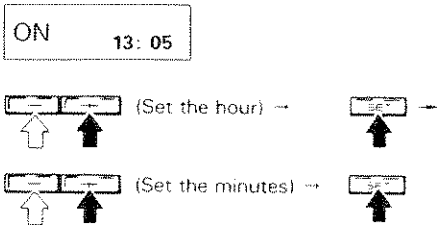
- When the disc is set and the power switch is depressed, the disc will be played from the beginning when the timer turns the power on.

1. **Press the POWER switch to the ON position.**
   - To play a compact disc, turn the CD player's power on.
2. **Select and operate a compact disc, tape, or the radio.**
   To play a CD:
   Set the disc in the compact disc player.
   To play a tape:
   Load the cassette and set the tape to the place at which you want to start.
3. **Press the SET switch.**
4. **Press the WAKE UP switch.**
5. **Use the "–", "+", and SET switches, and set the following:**

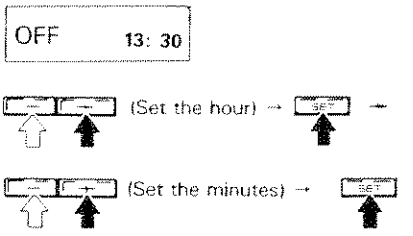
Start time
Stop time
Function
Volume

The following describes how to set a TUNER (ST-1) to play from 13:05 to 13:30.

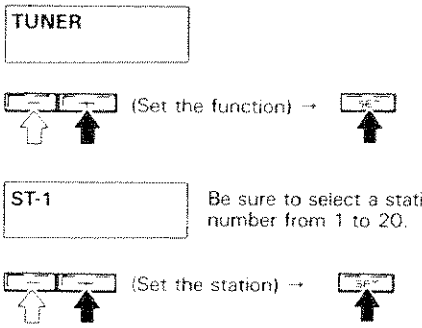
Setting the start time



Setting the stop time

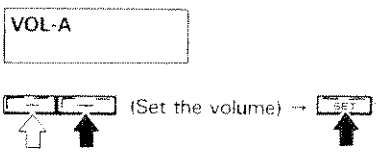


Setting the function



The function changes each time the "–" and "+" buttons are pressed. The function changes in the following order when the "+" button is pressed:
CD→DAT→VIDEO→TAPE→PHONO→TUNER→CD ...

Setting the volume



The volume setting changes in the following order each time the "+" button is pressed:
A→B→C→ • →A ...

VOL • — setting of the volume control

- The start time, stop time, function, and volume which have been set will be displayed in order.

6. **Use the WAKE UP switch to set the wake-up operation mode.**
   - Press once → ▶1 is set. (flashing → lit)

Operation modes

▶1 — Playback begins when the start time is reached. If VOL A, B, or C have been selected, the volume gradually increases. (If VOL • is selected, the volume remains at the set volume.) When the stop time is reached, the power turns off.

7. **Press the POWER switch to turn the power STANDBY.**
   - Playback will start and stop at the set times.

Confirmation-Press the WAKE UP switch twice.
- The start time, stop time, function, and volume which have been set will be displayed inorder.

Clear-Press the WAKE UP switch when the ▶1 lit.

TIMER RECORDING (One time)

This model includes a built-in timer. Be sure to set the time.
Normally, timer recording refers to recording radio broadcasts ("air-checking") while away from home.
- Timer recording is performed with the tuner's timer function.
- Timer recording is possible when a cassette tape is loaded in deck II.
- Timer recording is not possible if the accidental erasure prevention tabs on the cassette tape in deck II have been removed.

Unattended recording

1. **Press the power switch to the ON position.**
2. **Load the cassette tape onto which you want to record.**
   - To record on both sides of the tape with the ⊂⊃/⊃⊂ position, be sure to load the tape with the forward side facing forward. The tape will stop automatically when the end of the reverse side is reached.
3. **Select the REVERSE MODE switch.**
4. **Select the DOLBY NR switch.**
5. **Press the SET switch.**
6. **Press the REC switch.**
7. **Use the "–", "+", and SET switches, and set the following:**

Start time
Stop time
Function
Volume

   - Settings are performed in the same way as for timer playback. Refer to step 5 under the section on timer playback.
   - To set the volume, select VOL • and set the volume control to the minimum position.
   - The set start time, stop time, function, and volume will be displayed in order.
8. **Press the REC switch.**
   - The REC indicator will stop flashing and remain lit.
9. **Press the POWER switch to turn the power STANDBY.**
   - Recording will start and stop at the set times.

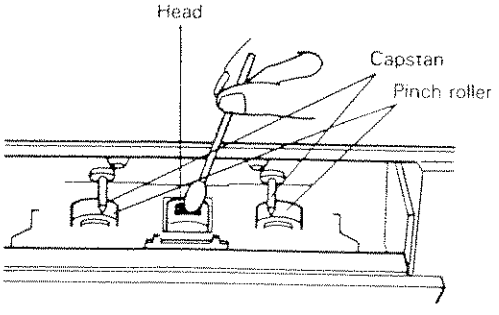
Confirmation-Press the REC switch twice.
- The start time, stop time, function, and volume which have been set will be displayed inorder.

Clear-Press the REC switch when the REC lit.

MAINTENANCE

CLEANING THE HEAD SECTION

The heads, capstan and pinch roller are parts which are liable to get dirty quite easily. In particular, if the heads are dirty, the high frequency components of the sound will not be reproduced and the stereo balance will be impaired, resulting in a deterioration in sound quality. It is therefore recommended that the head section be cleaned regularly.
- Press the EJECT button to open the cassette door.
- Dip a cleaning swab into head cleaning fluid and use it to wipe the heads, capstan, and pinch roller.



NOTE:
- *This unit uses a head-slant standby system, with the result that the heads are mounted at an angled position.*
- *Clean the head as shown in the above drawing.*

DEMAGNETIZING THE HEAD

The recording/playback head becomes magnetized when you use the tape deck for prolonged periods of time. This results in noise being generated and the treble dropping off during recording and playback. The recording/playback head should therefore be demagnetized regularly with a head demagnetizer (sold separately).
For further details, refer to the operating instructions accompanying your head demagnetizer.

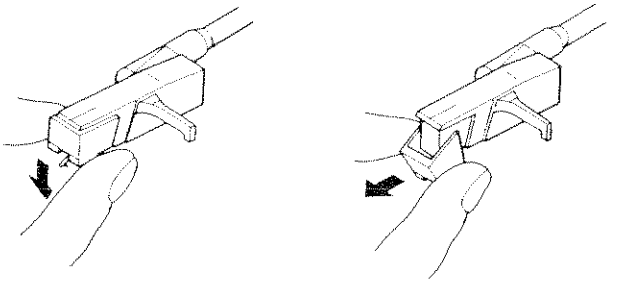
NOTE:
- *Do not hold screwdrivers, metal objects or magnets close to the heads.*
- *When demagnetizing the heads, be sure the unit's POWER switch is in the STANDBY position.*

CLEANING THE UNIT

Wipe the front panel and the cassette door when dusty or greasy with a soft cloth containing a small amount of ordinary clean up liquid. Then wipe dry with a cloth. Never use volatile spirits like thinners, benzine or alcohol, as they will damage the panel's finish.

REPLACING THE STYLUS

1. **Remove the stylus gently.**



2. **Attach the new stylus to the cartridge.**

NOTE:

- *The service life of the stylus on the supplied cartridge ranges from 800 to 1,000 hours.*
- *Using a worn or damaged stylus can damage your records and distort the sound reproduction. Remember to replace the stylus at the earliest possible date.*
- *Always use the PIONEER "PN-210" as a replacement stylus.*
- *Always ask for a genuine PIONEER replacement stylus.*

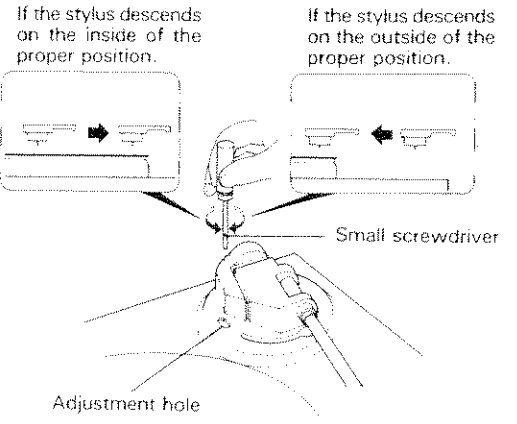
PRECAUTION:

If the turntable is mounted directly on or against a speaker, the vibration from the speaker will be transported to the tonearm's cartridge, thus causing feedback howling. Be sure that speakers are mounted sufficiently separated from the turntable.

ADJUSTING THE STYLUS DESCENT POSITION (PL-Z91 only)

Proceed as follows when the stylus does not descend at the proper position on the record during auto play. While performing the adjustment, take care not to scratch the record with the stylus.

1. **Place a 30 cm LP record on the platter.**
2. **Push the PLAY/STOP switch to start auto play.**
   - Check the direction and amount of stylus deviation (how many millimeters toward the inside or outside of the record's lead-in-groove).
3. **Push the PLAY/STOP switch to return the tonearm to the arm rest.**
4. **Set the ARM ELEVATION switch to the UP position and manually move the tonearm across the outside edge of the record.**
5. **Rotate the screw with a small screwdriver in accordance with the direction of the deviation observed in step 2.**
   - Rotate the screw clockwise if the stylus descends on the outside of the proper position.
   - Rotate the screw counterclockwise if the stylus descends on the inside of the proper position.
6. **Manually return the tonearm to the arm rest and set the ARM ELEVATION switch to the DOWN position.**
7. **Push the PLAY/STOP switch and check that the stylus stops at the lead-in groove on the outer circumference of the record. If the position is still not correct, repeat steps 2 to 6.**


If the stylus descends on the inside of the proper position.
If the stylus descends on the outside of the proper position.
Small screwdriver
Adjustment hole

TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used.
If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Cassette Deck/Amp

Symptom	Cause	Remedy
No sound from speakers.	• Is volume level turned down? • MIXING control is at MIC side.	• Increase volume level. • Set MIXING control to SOURCE side.
Tape deck will not work.	• Is deck in pause mode? • Is tape loaded correctly?	• Press PAUSE (▮▮) switch to release pause mode. • Load correctly.
No sound from tape deck.	• FUNCTION switch has been set to any position except TAPE. • Is a blank tape loaded? • Are heads clean?	• Set FUNCTION switch to TAPE. • Load a pre-recorded tape. • Clean heads.
Recording not possible.	• Is tape loaded in Deck I? • Are heads clean? • Is cassette tab broken?	• Load blank in Deck II for recording. • Clean heads. • Apply tape over tab hole. (See page 13)
High frequency sounds not reproduced.	• Are heads clean? • Is a tape which has not been recorded in DOLBY NR being played with the DOLBY NR system?	• Clean heads. • Turn off the Dolby NR system.
High frequencies over-emphasized.	• Is a Dolby NR tape being played back with the Dolby NR system off?	• Turn on the Dolby NR system.
Noise picked up during recording of tape, record, radio, etc.	• Is power to TV set turned on? • Is unit located too close to TV set?	• Turn off TV set. • Set the TV away from this unit.

Stereo Tuner

No sound	• FUNCTION switch has been set to any position except TUNER.	• Set FUNCTION switch to TUNER.
AM reception not possible.	• Is loop antenna connected? • Is band selector switch set to AM? • Is station tuned in properly?	• Connect loop antenna. • Set band selector switch to AM. • Tune in station properly.
FM reception not possible.	• Is antenna connected? • Is band selector switch set to correct position?	• Connect antenna, following instructions on page 16 . • Set BAND selector switch to FM.
Large amount of noise.	• Are radio waves weak, causing antenna input to be insufficient?	• Switch OFF the CD player.

Turntable

Turntable does not work.	• Is drive belt properly attached?	• Attach belt correctly.
No sound.	• FUNCTION switch has been set to any position except PHONO.	• Set FUNCTION switch to PHONO.
Static, scratching noise produced.	• Is record surface dirty? • Is record warped or scratched?	• Clean record. • Replace record.
Stylus does not descend at correct position. (PL-Z91)	• Is descend position set correctly? • Is record a special size?	• Adjust descent position as explained on page 21 . • Change record or play back manually.

Remote Control Unit

Symptom	Cause	Remedy
Remote control operation is not possible.	• Battery is not installed in remote control unit. • Battery is dead. • For a CD player, the remote control cord is not connected.	• Insert battery. • Insert a new battery. • Correctly connect remote control cord.

Clock and Timer

Time not displayed	• Power failure. • Power cord disconnected.	• Set time again.
Timer does not operate	• Current time is not set.	• Set time correctly.

SPECIFICATIONS

Cassette tape deck amplifier: DC-Z91
AMPLIFIER SECTION

Continuous Average Power Output is 50 Watts* per channel, min., at 8 ohms from 40 Hertz to 20,000 Hertz, with no more than 0.3% total harmonic distortion.

**Measured pursuant to the Federal Trade Commission's Trade Regulation rules on Power Output Claims for Amplifiers.*

Continuous Power Output
Music power (both channel driven)
90 W + 90 W (1 kHz, T.H.D. 1%, 8 ohms)
Peak music power ..... 500 W
1 kHz (DIN) ..... 60 W + 60 W (T.H.D. 1% 8 ohms)
1 kHz (DIN music power) ..... 90 W + 90 W (T.H.D. 1% 8 ohms)
Graphic equalizer frequency band ..... 100 Hz, 330 Hz, 1 kHz, 3.3 kHz, 10 kHz, ±7 dB
Hum and Noise (IHF, short-circuited, A network)
PHONO ..... 72 dB
Hum and Noise (DIN continuous Power/50 mW)
PHONO ..... 68 dB/60 dB
Total Harmonic Distortion
(40 Hz to 20,000 Hz, 30 W, 8 ohms) ..... No more than 0.2%

Tape Deck Section
Systems ..... 4 track, 2-channel stereo
Heads ..... Recording/playback head × 1
Playback head × 1
Erasing head × 1
Motor ..... DC servo 2 speed motor × 1
Wow and Flutter ..... No more than 0.09% (WRMS)
Fast Winding Time ..... Approximately 95 seconds (C-60 tape)
Frequency Response
–20 dB recording:
Normal tape ..... 35 Hz to 14,000 Hz ±6 dB
CrO_2 ..... 35 Hz to 15,000 Hz ±6 dB
Metal tape ..... 35 Hz to 16,000 Hz ±6 dB
S/N
Dolby NR OFF ..... 56 dB
Noise Reduction Effect
Dolby B type NR ON ..... More than 10 dB (at 5 kHz)

Furnished Parts
Operating Instructions 1
Remote control unit 1
Dry cell batteries 2

Miscellaneous
Power requirements
European model ..... a.c. 220 Volts~, 50/60 Hz
U.K. and Australian models ..... a.c. 240 Volts~, 50/60 Hz
Other destination models
..... AC 110/120 – 127/220/240 V (switchable) 50/60 Hz
Power Consumption ..... 480 W
Dimensions ..... 360 (W) × 271 (H) × 332 (D) mm
14-3/16 (W) × 10-11/16 (H) × 13-1/16 (D) in
Weight (without package) ..... 10 kg (22 lb 1 oz)

FM/AM tuner: F-Z91 (L)
FM Tuner Section
Frequency range ..... 87.5 MHz to 108 MHz
Usable Sensitivity ..... 12.5 dBf, IHF (1.2 μV/75 ohms)
Sensitivity (DIN) ..... Mono 0.9 μV/75 ohms
Stereo: 50 μV/75 ohms
Signal-to-Noise Ratio (IHF, 85 dBf Input) ..... Mono: 75 dB
Signal-to-Noise Ratio (DIN) ..... Mono: 66 dB
Stereo: 60 dB
Distortion ..... Stereo: 0.5% (1 kHz)
Antenna Input ..... 300 ohm balanced
75 ohm unbalanced

MW (AM) Tuner Section
Frequency range
When 10 kHz step ..... 530 kHz to 1,700 kHz
When 9 kHz step ..... 531 kHz to 1,602 kHz
Sensitivity (IHF, Loop antenna) ..... 350 μV/m
Antenna ..... Loop Antenna
Output Level (AM 30% MOD) ..... 150 mV

LW Tuner Section
(For LW-equipped models only)
Frequency range ..... 153 kHz to 281 kHz
Sensitivity (IHF, Loop antenna) ..... 1500 μV/m
Antenna ..... Loop Antenna
Output Level (AM 30% MOD) ..... 150 mV

Miscellaneous
Dimensions ..... 360 (W) × 55 (H) × 315 (D) mm
14-3/16 (W) × 2-3/16 (H) × 12-3/8 (D) in

SPECIFICATIONS

Weight (without package) ..... 2.3 kg (5 lb 1 oz)

Furnished Parts

FM T-type Antenna 1
AM Loop Antenna 1

Turntable: PL-Z91/PL-Z81

Motor, Platter

Motor Type ..... DC servo motor
Drive Method ..... belt drive
Speed ..... 33-1/3, 45 RPM
Speed Variation ..... 0.07% WRMS (JIS ±0.10% WTD) Peak (DIN)
S/N ..... 68 dB (DIN-B)
Platter ..... 295 mm dia., aluminum die-cast

Tonearm

Type ..... Dynamic balance type, straight tonearm

Installed Cartridge (PC-210)

Type ..... MM Type
Stylus ..... 0.6 mil diamond
Replacement Stylus PN-210
Output voltage ..... 2.5 mV (1 kHz, 3.54 cm/s, Lat. peak)
Tracking Force ..... 2.0 — 3.0 g (optimum 2.5 g)
Frequency Response ..... 20 Hz to 20,000 Hz
Load Resistance ..... 47 kΩ
Cartridge Weight ..... 4 g

Other

Dimensions ..... 360 W × 90 H × 350.5 D (mm)
14-3/16 (W) × 3-9/16 (H) × 13-13/16 (D) in
Weight
PL-Z91 ..... 2.7 kg (5 lb 15 oz)
PL-Z81 ..... 2.7 kg (5 lb 15 oz)

Accessories

EP Adaptor 1

• *Specifications and design subject to possible modification without notice due to improvement.*

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